Technology Transfer in the Contaminant Analysis Automation (CAA) Program

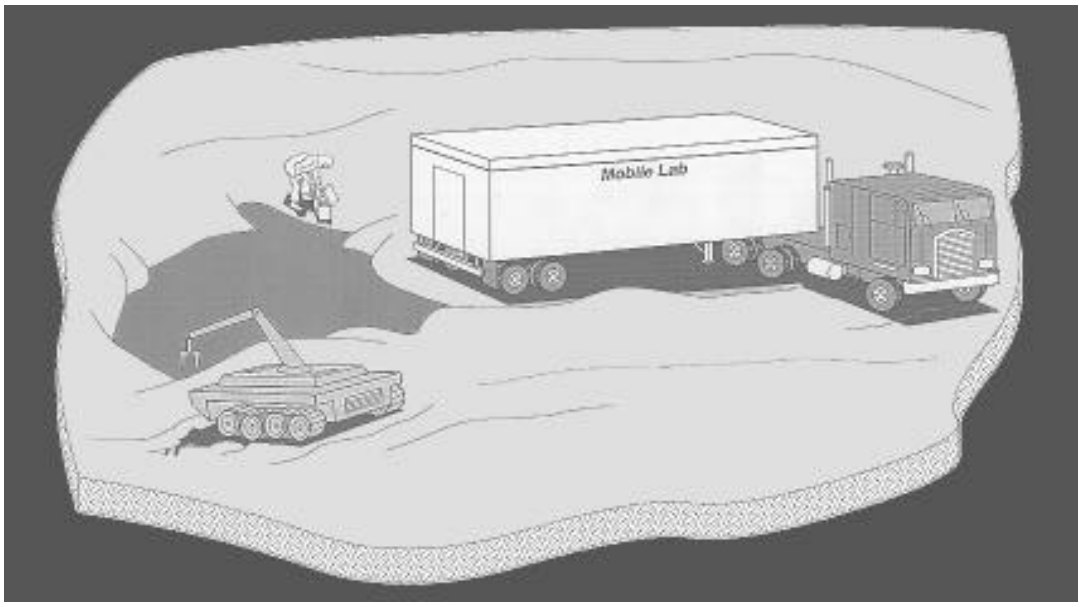

Figure 1. On-site sample analysis.

Program Description

The CAA Program consists of an aggressive and talented team of five Department of Energy (DOE) national laboratories, three respected universities, and several industrial partners. The team's goal is to develop and automate analytical sample analysis needs of the DOE and the Department of Defense (DoD). The team has made a commitment to commercialize this standardized technology to ensure broad market availability, low cost, and reliability. To accomplish this commercialization the team has structured a technology transfer plan that hinges on the critical role of the systems integrator.

SciBus Analytical, Inc., a progressive automation and systems integration engineering company in Sunnyvale, California, has been named the systems integrator for the CAA team. SciBus engineers ahave over 500 years of collective electromechanical design experience and has (have) applied a dedicated project management and design team to coordinate all aspects of CAA project development. The contracting mechanism for this interaction is a joint Cooperative Research and Development Agreement with the CAA national laboratories.

Systems Integrator Roles

Some of the tasks SciBus will perform as systems integrator include the following:

- Supporting and enhancing the continued definition of the SLM™ hardware and software standards,
- Seeking, evaluating and contracting with potential SLM™ manufacturers for those SLMs™ that SciBus does not want to manufacture,
- Helping to seek potential customers in the DOE, the DoD, other governmental agencies, and within the private sector,
- Providing for the completion and testing of the CAA integrated system control software, graphical user interface, and object-oriented database,

- Providing for SLMs™ not manufactured by other industrial partners but necessary for automation of specific standard analysis methods (SAMs),

- Delivering directly to the remediation site contained, integrated SAM robotic systems with the capability of handling mixed-waste samples, with provision for analyst training and system support,

- Acting as a full and respected team member of the CAA Program.

Benefits of Commercialization

From a conservative perspective, the expected annual cost savings to the DOE as a result of implementing this technology are as follows:

- for organic sample analysis - $45 million / year

- for inorganic sample analysis - $15 million / year

- for analysis of mixed waste samples - $187 million / year

Other direct benefits of the CAA technology include the following:

- A greater fraction of the remediation budget can be spent on actual cleanup as a result of the significant decrease in sample analysis cost.

- Faster sample analysis turnaround will allow faster site characterization and cleanup.

- Increased safety will result because a faster sample turnaround will allow faster site characterization and so a more rapid identification of immediate hazards.

- Lower cost of sample analysis will allow more samples to be taken, enabling fuller characterization of sites before cleanup. This results in cheaper cleanup activities (more targeted to better-defined contaminants in site maps) and more certain cleanup (lower cost of sample analysis yields less cleanup needed and better validation of cleanup results). Backlogs and holding times will be eliminated.

- Increased accuracy and precision of each analysis will result from the automated processing of samples.

For further information, please contact:
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